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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/900,312 | 07/06/2001 | Harald Hess | VOI0131.CON | 5684 |

7590 01/14/2003

Todd T. Taylor
Taylor & Aust, P.C.
142 S. Main St.
P.O. Box 560
Avilla, IN 46710

EXAMINER

FULLER, ERIC B

| ART UNIT | PAPER NUMBER |
|----------|--------------|
| 1762 | 15 |

DATE MAILED: 01/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) |
|------------------------------|------------------------|---------------------|
| | 09/900,312 | HESS, HARALD |
| Examiner | Art Unit | |
| Eric B Fuller | 1762 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 23 December 2002.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-4, 8, 10 and 11 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-4, 8, 10 and 11 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.

 If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. 09/301,194.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) Notice of References Cited (PTO-892) 4) Interview Summary (PTO-413) Paper No(s). _____ .
2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) Notice of Informal Patent Application (PTO-152)
3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. 6) Other: _____ .

DETAILED ACTION

Request for Continued Examination

The request filed on December 23, 2002 for continued examination (RCE) under 37 CFR 1.114 based on parent Application No. 09/900,312 is acceptable and an RCE has been established. An action on the RCE follows.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 8, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sundholm et al. (WO 94/11116) in view of Rosenberger et al. (US 5,993,913) and Govindan (US 3,979,535).

Sundholm teaches a process where a spray device, which has an application area, is oriented towards a fibrous web. The spray device atomizes the coating material and applies it to the web. A doctor blade is then used in order to sufficiently smooth the coating onto the web (page 6, line 17). Additionally, it is taught that the doctor blade leads to wasted coating material and that replacement of the doctor blade is time consuming (page 1, lines 25-28). Although Sundholm teaches a method that reduces the

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amount of wasted coating material and reduces the frequency of doctor blade replacement, it does not teach a method that is sufficiently smooth enough to eliminate both. Thus, there is a desire to achieve smoother coatings in the art of spray coating fibrous webs.

Rosenberger teaches a method where a spray device, which has an application area, is oriented towards a substrate in a semi-enclosed spray booth (column 3, lines 55-60). The spray device atomizes, by air, a mixture of water (applicant's moistening medium, as defined in claims 2-4) and coating medium (column 2, lines 52-63; column 5, lines 1-5). Rosenberger teaches that the water is added, prior to atomization, in order to reduce viscosity and increase flowability of the coating agent, which results in smoother surfaces (column 3, lines 41-45; table 1).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the method taught by Rosenberger in order to coat the fibrous web of Sundholm. By doing so, the smoothness of the fibrous web would be increased.

The two references do not explicitly teach directing a vapor towards the back of the spray device. However, Rosenberger does teach a desire to control the relative humidity of the spray booth in order to achieve smooth films (column 1, lines 19-35). Govindan teaches a process of controlling humidity in a spray booth such that the smoothness of the film is increased (column 1, lines 40-47). Passing the atomization air of the spray device through a humidifier before the air enters the spray booth controls the humidity of the spray booth (figure, column 3, line 18-20). The humidifier operates

by adding steam to the air (column 4, lines 26-28). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to humidify the atomization air of Rosenberger with steam such that the humidity of the spray booth is controlled. By doing so, more uniform films are expected.

As to claims 2-4 and 11, according to Rosenberger, the moistening medium is in the form of a liquid when being mixed with the coating material. Since humidity is being measured and controlled in the atmosphere, it is inferred that the liquid, which is water, is being transformed into water vapor as it is passed through the nozzle (column 2, lines 19-31; column 3, lines 42-56). The water is being mixed upstream from the nozzles (figure). Therefore the spraying step utilizes the moistening medium and the water acts as a carrier.

As to claims 8 and 10, the spray device can be an electrostatic rotary atomizing device.

Claims 1-4, 8, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sundholm et al. (WO 94/11116) in view of Behmel et al. (US 4,396,651) and Govindan (US 3,979,535).

Sundholm teaches a process where a spray device, which has an application area, is oriented towards a fibrous web. The spray device atomizes the coating material and applies it to the web. A doctor blade is then used in order to sufficiently smooth the coating onto the web (page 6, line 17). Additionally, it is taught that the doctor blade leads to wasted coating material and that replacement of the doctor blade is time

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consuming (page 1, lines 25-28). Although Sundolm teaches a method that reduces the amount of wasted coating material and reduces the frequency of doctor blade replacement, it does not teach a method that is sufficiently smooth enough to eliminate both. Thus, there is a desire to achieve smoother coatings in the art of spray coating fibrous webs.

Behmel teaches a process where a spray device, which has an application area, is oriented towards a substrate in a spray room. The spray device atomizes, by air, the coating material in a main nozzle and atomizes an additive in an ancillary nozzle (abstract, column 2, line 64). The additive is water (inherently a moistening medium). The spray device causes mixing of the atomized water with the atomized coating material to create a heterogeneous mixture. The heterogeneous mixture allows for a high degree of wetting of the substrate, which provides for a smooth coating (column 3, lines 18-40; column 2, lines 1-29). The atmosphere is maintained by measuring the humidity and around the nozzle and adjusting the water flow rate (column 3, lines 8-15).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the method taught by Behmel in order to coat the fibrous web of Sundolm. By doing so, the smoothness of the fibrous web would be increased.

The two references do not explicitly teach directing a vapor towards the back of the spray device. However, Behmel does teach a desire to control the relative humidity of the spray booth in order to achieve smooth films (column 3, lines 8-15). Govindan teaches a process of controlling humidity in a spray booth such that the smoothness of

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the film is increased (column 1, lines 40-47). Passing the atomization air of the spray device through a humidifier before the air enters the spray booth controls the humidity of the spray booth (figure, column 3, line 18-20). The humidifier operates by adding steam to the air (column 4, lines 26-28). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to humidify the atomization air of Behmel with steam such that the humidity of the spray booth is controlled. By doing so, more uniform films are expected.

As to claims 2-4, according to Behmel, water, which is a liquid, is flowed into the ancillary nozzle. Since humidity is being measured and controlled in the atmosphere, it is inferred that the water is being transformed into water vapor as it is passed through the nozzle (column 3, lines 6-15).

As to claims 8 and 10, the spray device can be an electrostatic rotary atomizing device (column 2, line 45 and 61-66).

As to claim 11, as taught above, both the water and the coating medium are atomized prior to mixing. This reads on supplying the moistening medium to the atomized coating medium.

Response to Arguments

Applicant argues that neither Behmel nor Rosenberger explicitly teach the limitation of directing vapor to the back of the spray device. Examiner agrees. However, these arguments are moot in view of the new grounds of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kokinen et al. (US 6,063,449) and Foster et al. (US 6,245,388 B1) are cited as teaching feeding water vapor into the spray booths of web-spraying processes. Riepenhoff et al. (US 6,341,559 B1), Freeman et al. (US 6,461,667 B1), Schoeps et al. (US 5,299,495), and Winheim (US 5,642,671) are all considered pertinent to the applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric B Fuller whose telephone number is (703) 308-6544. The examiner can normally be reached on Mondays through Thursdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck, can be reached at (703) 308-2333. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.


EBF
January 8, 2003


SHRIVE P. BECK
SUPPLEMENTAL PATENT EXAMINER
TECHNOLOGY CENTER 1700